

The College Board Review



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THE COLLEGE BOARD REVIEW

News and Research of the
College Entrance Examination Board

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The College Entrance Examination Board is composed of 155 member colleges and 23 member educational associations. Each member college has two representatives on the Board. Member associations have from one to five representatives. Members and their representatives are listed in the *Annual Report of the Director*.

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News of the Board

Five colleges join Board

The election of five new college members has increased College Board membership to 155 colleges and 23 educational associations.

Two of the colleges, on completion of their applications following the spring meeting of the Board, were admitted by the Executive Committee, which had been authorized at that time to take such action. The other three colleges were elected to membership at the fall meeting. The new members are:

Allegheny College	Saint Joseph College
Clarkson College of Technology	University of Vermont and State Agricultural College
Mary Baldwin College	

Each college is entitled to one voting representative and one non-voting representative. Educational associations are entitled to from one to five voting representatives, according to the nature and scope of the organization.

Admissions Colloquium held

Representatives of 88 member colleges participated in the College Board's first Colloquium on College Admissions, at Harriman, New York, during the week of October 26.

The colloquium program, consisting of addresses, discussion, and informal exchanges of information on all phases of college admissions, included consideration of the current and probable future supply of educated persons, the demand for them, and the relation of these factors to the individual college.

Other topics covered in detail the problems of school-college relations, the determination and evaluation of admissions policy, and the methods and philosophy of student selection, including a study of case histories. The final sessions examined specific techniques and purposes of student recruiting, the handling of applications

for admission, the appraisal of information submitted to the college, and the responsibility of the admissions officer.

Speakers during the four-day program were Dr. Dael Wolfe, director, Commission on Human Resources and Advanced Training; Dr. R. Clyde White, professor of public welfare, Western Reserve University; Dr. Paul H. Farrier, director of admissions, Virginia Polytechnic Institute; Dr. Albert E. Meder, Jr., dean of administration, Rutgers University; Harold A. Odell, principal, Montclair (N.J.) High School; Vice President Mary E. Chase, director of admission, Wellesley College; Professor Paul S. Burnham, associate director, Student Appointment Bureau, Yale University; and Professor Norman O. Frederiksen, director, Counseling Service, Princeton University, and head, Research Department, Educational Testing Service.

Also, Dr. J. Roswell Gallagher, chief, Adolescent Unit, Children's Medical Center, Boston, Massachusetts; Dr. Henry S. Dyer, associate director, College Board; Professor Rixford K. Snyder, director of admissions, Stanford University; Dr. E. Kenneth Smiley, vice president, Lehigh University; Bernard P. Ireland, associate director of admissions, Columbia University; and Frank H. Bowles, director, College Board.

The proceedings of the colloquium will be published as soon as possible.

Elections fill Board posts

Three Executive Committee vacancies were among the important positions filled by election at the College Board meeting on October 28.

The new Executive Committee members elected to serve three-year terms are Robert M. Cobbledick, director of admissions, Connecticut College for Women; Matthew P. Gaffney, principal, New Trier Township (Ill.) High School; and Albert E. Meder, Jr., dean of administration, Rutgers University. The retiring members of this committee are Allan V. Heely,

headmaster, Lawrenceville (N.J.) School; Herbert H. Williams, director of admissions, Cornell University; and B. A. Thresher, director of admissions, Massachusetts Institute of Technology.

Claude M. Fuess, author of the fiftieth anniversary history of the Board and its Chief Custodian for many years, was reelected to serve until 1958.

Elected to represent secondary schools as Board representatives-at-large were Lois B. Knox, dean of girls, Ridgewood (N.J.) High School; Wilson Parkhill, headmaster, Collegiate School, New York, N.Y.; and Elizabeth Smith, guidance director, Hastings (N.Y.) High School. Representatives-at-large who were reelected for three-year terms are Mr. Gaffney; John W. Hollowell, headmaster, Western Reserve Academy, Hudson, Ohio; and William L. Pressly, president, the Westminster Schools, Atlanta, Georgia.

Handbook offered by new service

Two new publications, a revised and enlarged edition of the *College Handbook* and a descriptive booklet on the Social Studies Test, were among the first materials to be distributed by the College Board subscription service.

The new plan for distribution of Board publications enables schools, colleges, and individuals to order in advance all materials scheduled for regular publication by the Board in the 1953-4 academic year.

The *Handbook* for 1953-5 includes statements of 154 colleges which are members of the Board, an increase of 20 over the 1951 edition. All statements have been corrected by the colleges and many have been completely rewritten to bring information on offerings, requirements, costs, and financial aids up to date. The tables on enrollment and ROTC units have been revised and a new table summarizes the College Board test requirements and application for admission dates of the colleges.

The Social Studies Test booklet, the first of

three descriptive explanations of the tests to be issued during the year, was prepared to help teachers and students. It explains how the test is made and shows why the various types of questions it contains are used.

Other publications included in the subscription service are the *College Board Review*, the *Report of the Director*, booklets on the Foreign Language tests and the English Composition Test, and *College Board Tests*, the bulletin of information of the examination program. The publications may be ordered individually in any quantity and at the reduced cost of three dollars for complete sets (see page 396).

Mrs. Gise named Assistant Secretary

Helen M. Gise, whose career with the College Board began with summer employment while she was a college freshman, was appointed Assistant Secretary of the Board on October 7.

Mrs. Gise joined the staff on a full time basis in 1932, after being graduated from Hunter College with cum laude and Phi Beta Kappa honors. Except for a six-month leave of absence, during which she taught a course in the history of education at Hunter, Mrs. Gise has been with the Board since that time. Most recently the executive secretary of the Colloquium on Admissions, Mrs. Gise served previously as secretary to Frank H. Bowles, the Director of the Board, and his predecessors in that office, Professor George W. Mullins and Henry Chauncey.

Briggs to visit schools, colleges

The expanded program of visits to schools and colleges by members of the staff of the College Board has been continued this year with the appointment of Roy B. Briggs as Visiting Representative for the fall and winter months.

The program facilitates the exchange of information between the Board and the educational community by permitting increased direct contact with many more institutions than have previously been visited. It was ini-

Board to meet April 7

The annual spring meeting of the College Board will be held in New York City on April 7. Details of the program will be announced in the February *Review*.

tiated last year when Dean J. Edward Sanders of Pomona College served as the Board's representative in visits to more than 50 institutions.

Mr. Briggs, a member of the faculty of Roger Ludlowe High School, Fairfield, Connecticut, has taught English and Social Studies and is a student counselor. His other activities have included work with the Citizens' School Study Council and participation in many regional workshops on citizenship. He will resume his duties at Roger Ludlowe High School at the beginning of the spring session.

French aural placement test planned

Plans have been completed to add the Advanced Mathematics Achievement Test and an aural comprehension test in French to the College Board Placement Test Program as soon as possible.

Two recent forms of the mathematics test used in the entrance examination program will be made available for course placement purposes if a sufficient number of requests for the test are received from colleges.

The French test, an innovation in the Board battery intended only for placement use, will be constructed by a subcommittee of the Committee of Examiners in French. It developed from an experiment sponsored by the Yale-Barnard Conference on the Teaching of French, which will expand and reorganize in 1954 as the North East Conference on the Teaching of Foreign Languages. Both tape recordings and scripts of the French test will be made available to colleges. Students will indicate a choice of responses on answer sheets. Similar subcommit-

tees will consider the possibility of aural comprehension tests in German and Spanish.

The Placement Test program currently offers tests in French Reading, German Reading, Latin Reading, Spanish Reading, Chemistry, Physics, Spatial Relations, and General Composition. These are made available to colleges under requirement of secure conditions at a cost of twenty-five cents per test copy. Full directions for their administration and scoring by the colleges are provided. Detailed information on the program will be supplied on request.

Candidate Reply Date replaces UAD

Institution of a Candidates Reply Date to replace the Uniform Acceptance Date used in recent years by more than 80 colleges was approved by the College Board at its October meeting.

The new name was adopted to eliminate a confusion in terminology which has existed between the date on which a college notifies a candidate that his application for admission has been accepted and the date when the accepted candidate indicates that he will attend the college. The Candidates Reply Date will be that date before which a college subscribing to it will not require the accepted candidate to give notice of his intention to attend the institution.

Changes in procedure adopted by the Board at the same time were that the Candidates Reply Date will be set by the Board, instead of by the eight colleges which originated the practice in 1948, and that the date will be no earlier than 30 days after the March Achievement Test scores are reported to colleges. The actual date will be announced in the February issue of the *Review* with the list of colleges which agree to observe it.

Developed ability tests planned

Further work on tests of developed ability in the humanities, social studies, and science has been approved by the College Board on recom-

mendation of the special committees which explored the possibility of such tests during the past year.

The tests are conceived as two-hour examinations capable of determining how well the student has learned to reason with the materials to which he has been exposed in each of the three areas. It is proposed that the tests will show the degree of the student's accomplishment in the humanities, social studies, and science and will predict his performance in those fields in college.

A tentative schedule calls for development of experimental tests during the current academic year, their trial in schools and colleges next year, and analysis of the data resulting from the tryouts the following year. The earliest time by which final forms of the tests could be incorporated in the regular examination program is considered to be 1957.

Larger Executive Committee proposed

A proposal to increase the size of the Executive Committee to make it more representative of the member colleges and associations of the College Board is now under consideration.

A subcommittee of the Executive Committee, consisting of Archibald MacIntosh, Katharine E. McBride, and Allan V. Heely will meet in November to consider the proposal.

Scholarship study authorized

A large-scale study of the scholarship situation in the United States was authorized by the College Board at its fall meeting with approval of an expenditure of \$50,000 in the current academic year for this purpose. It is expected that the study will require two years.

The project is an extension of other Board activities which have related to the scholarship area, among them the early development of achievement tests, current cooperation with approximately 50 sponsors of scholarship programs, Dr. Byron S. Hollinshead's report on

Who Should Go to College, and Dr. Charles E. Cole's recent review of *Sponsored Scholarships*. The proposal for a comprehensive survey followed the discussion of scholarship practices and policies to which the April symposium of the Board was devoted.

The study will consider such factors as scholarship competition among colleges and among candidates, institutional policies, the purposes, number, and value of scholarships, and the groups served and not served by them.

Coast colleges chart joint action

Meeting informally on October 8, representatives of College Board member institutions on the West Coast agreed to work cooperatively on several admissions problems of mutual interest.

Among the projects undertaken by the group were the development of a uniform application blank for financial assistance, differentiation between honors awarded at entrance for academic achievement and of scholarship grants based on need, and the possibility of devising a formula for determining financial need. The colleges are also considering the adoption of common closing dates for the filing of applications for admission and for financial assistance as well as a common date before which notifications of admission and scholarship grants would not be issued.

Dean J. Edward Sanders of Pomona College has been designated to represent the joint efforts of the colleges.

Aptitude test committee approved

Appointment of a committee of examiners for the College Board aptitude tests has been approved by the Committee on Examinations.

The examiners will maintain a close working relationship with the technical staff of Educational Testing Service which produces the Scholastic Aptitude Test, the College Transfer Test, and the Spatial Relations Test. The 14 achievement tests of the program are prepared

by Board committees with the assistance of Educational Testing Service subject matter experts.

The aptitude test examiners will review current methods of aptitude testing and consider recommendations and findings resulting from studies of the tests.

Testing dates scheduled

Dates announced for the administration of College Board tests in the current academic year and in the 1954-5 year are as follows:

1953-4	1954-5
Dec. 5	Dec. 4
Jan. 9	Jan. 8
Mar. 13	Mar. 12
May 22	May 21
Aug. 11	Aug. 10

Tests of advanced standing studied

An exploration of current experiments in testing for advanced standing in college will be conducted by the College Board to determine whether it should introduce an advanced placement program after 1954.

A subcommittee of the Committee on Examinations will study the work of two projects in this area, the School and College Study of Admission with Advanced Standing and the School and College Study of General Education.

Examinations developed by the Admission with Advanced Standing group are being administered this year to freshmen of twelve colleges to determine their readiness for full or partial sophomore standing with credit. The General Education group, advocating the elimination of duplication in school and college courses, has recommended the use of placement tests after admission to permit the able student a study program of "progression in strength." Reports of these projects appeared in the November, 1952, issue of the *Review*.

Society—the Chief Examiner

The role of social requirements in a changing pattern of examination techniques and objectives—by I. L. KANDEL

The history of examinations is the history of their adaptation to social needs and the changes in educational theory. As the needs of society for trained or professional services increased, the number and scope of examinations also increased.

The common basis for examinations from both the educational and social points of view was the intention to maintain standards of attainment either of knowledge or of skills required for the practice of an occupation. In both cases examinations may be considered to be tests of competence. In education examinations constitute tests not merely of acquisition of certain bodies of knowledge but also of capacity to take one's place in his community as a citizen. On the social side examinations obviously serve as tests of ability to perform certain services on which the well-being of society depends.

The history of examinations is probably as old as the history of man's needs for specialized skills. Their formal organization as tests of competence can be traced back to the Middle Ages, when, after a period of apprenticeship, candidates were examined for admission to the guilds of masters whether in the world of learning or in the practice of a vocation. The examinations were, of course, oral and practical. It was not until the early decades of the last century that written examinations were introduced and, in the case of vocations, were supplemented by practical tests.

The number of examinations and examining bodies gradually increased in the English-

speaking countries in contrast with those countries in which a central governmental agency controlled all types of educational institutions and examinations. By the end of the nineteenth century, the cynic might say that only in the field of education was serious attention given to Socrates' statement that "a life without examinations is not worth living."



"A life without examinations is not worth living"

Despite the growth in the number of examinations and the variety of purposes that they were designed to achieve, their character remained unchanged throughout the nineteenth century—candidates were asked to write the answers to a certain number of questions, all of which were supposed to be of equal difficulty. There may have been prearranged systems of marking, but it is doubtful whether any examiner ever thought of such issues as reliability

and validity of marking. The basic principle of education and of examinations was *caveat alumnus*. It is for this reason that so many stories of the methods of marking were invented by their victims. The best description was given by a don:

*'Twixt Right and Wrong the Difference is dim;
'Tis settled by the Moderator's Whim.
Perchance the Delta on your Paper marked
Means that his Lunch has disagreed with him.*

A more recent description of examinations, which appeared in Richard Gordon's novel, "Doctor in the House" (1953), will perhaps be considered as more accurate:

"An examination is nothing more than an investigation of a man's knowledge, conducted in a way that the authorities have found to be the most fair and convenient to both sides. But the medical student cannot see it in this light. Examinations touch off his fighting spirit; they are a straight contest between himself and the examiners conducted on well-established rules for both, and he goes to them like a prize-fighter."

Given the emphasis on intellectual training through the acquisition of certain bodies of knowledge and the psychological premises upon which education and instruction were based—the doctrine of formal discipline and transfer of training—the persistent and unchanging character of examinations need cause no surprise. It is erroneous, however, to characterize what is called the educational tradition as wholly directed to intellectual training.

Those who have criticized the educational tradition for its one-sided emphasis on intellectual training and its neglect of emotional and other forms of developing the whole personality, forget that what they are pleased to call "the concomitants" were not ignored but were expected to be cultivated by indirection. Thus the slogan that helped to promote and advance the cause of universal elementary education was "Open a school and close a jail." In secondary education the theory that the so-called



Tests for apprentices were oral and practical

narrow curriculum produced certain other results than mental training can be traced back certainly to Plato and explicitly to Isocrates. The latter could claim that of his many pupils "some have become great orators, some men of action, some great thinkers, some, with no particular talents, have at any rate become upright and cultured gentlemen."

AN OUTWORN TRADITION

This is the tradition that kept alive the concepts of elementary and of secondary education and curricula and examinations that are today considered obsolete, outworn, and useless. So far as social needs were concerned, society felt that it was receiving the proper contribution from education as much through the intellectual training given as through the indirect influence on the development of character. It is also for this reason that examinations, however burdensome on the students, were also considered to be good for his morale.

The social value placed upon examinations is well illustrated by the fact that in the nineteenth century, and to some extent in the present, the only educational items, besides sports and athletics, considered newsworthy in Eng-

land were the results of various key examinations. In New Zealand and Australia more public interest is shown in the results of the matriculation examination than in any other aspect of education. In Ireland until World War I another reason for the great importance attached to examinations in secondary schools was the fact that government grants were paid on the results.

There was, however, another and more serious side to the problem of examinations when success or failure determined the future careers and social status of boys and girls. This was true in most countries of continental Europe. Failure to pass the *Abiturium* in Germany meant social disgrace and not infrequently led to suicide. In France the situation was not taken so seriously for there was apparently no limit to the number of times that students could present themselves to take the examination for the *baccalauréat*. The story of the Indian who used the title "Failed B.A." may be apocryphal but it does illustrate the emphasis placed in India upon success in examinations.

It was not until toward the end of the nineteenth century that any serious attacks began to be made on examinations. Even then the criticism was not made on educational grounds; the new psychology which was to influence the development of educational theory had hardly emerged. The attacks were made rather from



On his resignation as Editor of *School and Society* this summer, I. L. Kandel was described as a "three-fold emeritus"—as Professor of Education, Columbia Teachers College; Professor of American Studies, University of Manchester; and guiding light of the journal of the Society for the Advancement of Education. Dr. Kandel's lively comments have been directed at almost every phase of education in this

country and abroad. Long known as a challenger of pedagogical parochialism in the United States, Dr. Kandel has explored and illuminated such important areas as international education, academic freedom and teacher education.

the statistical side or, in later language, on grounds of the reliability of marking. In 1888 Professor F. Y. Edgeworth, the economist, wrote on "The Statistics of Examinations" in the *Journal of the Royal Statistical Society*:

"That the examination is a very rough yet not wholly inefficient test of merit is generally admitted. But I do not know that anyone has attempted to appreciate with any approach to precision the degree of accuracy or inaccuracy which is to be ascribed to the modern method of estimating proficiency by means of numerical marks. It occurs to me that the method of effecting this computation is contained in that part of the Calculus of Probabilities which is known as the Theory of Errors. The doctrine of chance and error is eminently germane to the present subject." Edgeworth followed up this article with another on "The Element of Chance in Competitive Examinations" which appeared in the same journal two years later.

SCIENTIFIC INVESTIGATION URGED

Professor J. Rendell Harris of Haverford College in a paper on "The Right Reform of Education" read at the first Annual Convention of the College Association of the Middle States and Maryland in 1890, like Edgeworth, accepted the values claimed for the examination system but was critical of the methods of marking. What he wanted to see was what later came to be known as a normal distribution of the marks. As he put it:

"A well-conducted examination divides the students one from another like the opening of a fan. I affirm that the first thing to be aimed at is to produce a dispersion among the group of persons presented for examination."

Harris recommended the creation of some body of external examinations which would contribute to the improvement of secondary education. He still adhered to the traditional concept that the function of examinations is to "gather only the good fish into their appropriate vessels and throw the bad away."

Another fifteen years were to elapse before

the challenge thrown out by Edgeworth and Harris that examinations offered themselves as a good subject for scientific and objective investigation. To the best of my knowledge Edgeworth's criticism of one of the major and most crucial examinations did not create a ripple of thought in England. Nor did much happen in the United States until after the turn of the century. The only unrest that did exist arose from the great multiplicity and variety of college entrance examinations, a situation corrected in 1900 by the creation of the College Entrance Examination Board in November of that year.

Two reasons can be cited to explain the delay in meeting the criticisms levelled against examinations. Of these the first was a rationalization of the values which had been built up to justify their perpetuation without change. The second reason is almost simpler; there had not as yet been proposed any instrument that could replace the traditional system. It is well to remember that the examinations were intended to set standards as well as to measure the achievements of the existing educational systems. To criticize the values of examinations would have been considered to be a criticism of the educational systems, and to criticize the educational systems would have been taken as a criticism of an important institution in the social structure. By the end of the nineteenth century examinations were reputed to have the following values: they were tests of power; they trained pupils to deal with new materials and to exercise discrimination and judgment; they helped pupils to acquire a global view of a subject and to bring its parts into a certain unity; they trained them to think, to produce information on demand, and to cultivate habits of accuracy.

There were some who deplored the system because it encouraged memorization and cramming, and developed false standards of education. These were assumptions to justify a device which in most cases was intended to separate the sheep from the goats by some kind of



Examinations were considered good for morale

artificial fence, called a pass-mark. At most the system was successful in producing a snapshot picture of the students, so blurred, however, that it became difficult to distinguish the features of those who just managed to get over the fence and those who just failed to do so.

FIRST VALIDITY STUDY

By 1900 the development of psychological theory had begun to undermine the traditional faculty psychology and, shortly after, the unqualified acceptance of the doctrine of formal discipline and transfer. From both directions the values claimed for examinations of the traditional type became open to question. In 1905 came the first scientific attack on examinations by J. McKeen Cattell in an article on "Examinations, Grades, and Credits" (*Popular Science Monthly*, Vol. 66, pp. 366 ff.). Cattell pointed to the need of insuring the validity of the examinations, standardizing methods, and improving the system. This was followed up in 1906 by E. L. Thorndike's article on "The Future of the College Entrance Examination Board" (*Educational Review*, Vol. 31, pp. 470 ff.). Thorndike considered the Board's examination from the point of view of its prognostic

value, which he found unsatisfactory. He pointed out that better tests of fitness for college education were needed and showed through his investigations that the marking of scripts was unreliable and variable.

Thorndike's studies of validity and reliability were soon confirmed by the investigations of others. At the same time there appeared the beginnings of the new instruments that were to serve as substitutes for or as supplements to the traditional form of examinations. It is unnecessary here to discuss the advantages of the new type, objective examinations. Except for those who believe that the latest is always the best, no one would claim that the new type examinations have settled all problems involved. The value of the essay as a test of ability and promise has not yet been disproved.

In general the objective tests have considerable advantages from both the administrative and the scientific points of view. If the chief disadvantage of the traditional system of examinations is the unreliability of marking, the chief difficulty in the new system is the validation of the tests. The great advantage of the new over the old type examination lies in the uses to which the new can be put. The old type could within limits discover how much a pupil knows, but it tended to be selective. The new type progressing in difficulty can discover not only how much a pupil knows, but also how much more he can learn. But the new type can also be used for diagnostic purposes—to discover needed improvement in methods of instruction and the points at which pupils find their greatest difficulties. In contrast to the selective character of the old, the new type distributes the pupils on a scale rather than in relation to a more or less artificially determined pass-mark.

The development of the new type examination was made possible by the changes in both psychological and educational theory. It also coincided with a new stage in the development of the recognition of the social value and importance of education. The gradual urbanization

of the population resulting from the gradual shift from an agricultural to an industrial economy and the increased wealth of the country made it possible for parents to keep their children in school for a longer period. Studies of elimination and mortality in the high schools pointed to the need of instruments to discover what courses were best suited to the abilities of each student. The new type tests appeared at a time when they could meet the social needs. Their introduction and use were a slow process, but they did ultimately become the basis of guidance, to some extent. The tests may not tell the whole story about a student; they may, however, point to the desirability of securing information from other sources, such as total school record and teachers' estimates.

TESTS AS GUIDANCE AIDS

The same problems arose some years later at another level of the educational organization—entrance to college. The traditional examination could separate those who should be admitted to college from those who should not, but no interest was shown in those who fell by the way. The new type of examination, properly employed, seeks to find out what a student can do and supplies some basis for guidance and advice. No test has yet been devised, however, that will indicate or guarantee that a student will be able to complete a course on which he has embarked. Only superficial information can be secured about an individual's persistence and perseverance, but not enough to indicate whether he will be able to surmount unforeseen contingencies.

A recent report has shown that even an able student may go to pieces because he finds the early college courses to be mere repetitions of what he had already studied in high schools. As was pointed out in the Thirty-third Annual Report of the College Entrance Examination Board: "In the opinion of many teachers it is fairly easy to find out how much a candidate has learned, somewhat difficult to find out how much more he can learn, and almost impossible

to prophesy how much more he will learn." The task has been simplified; if one may quote Ben D. Wood's formula that task is "to find out what a pupil can do and help him do it."

In 1892 President Charles W. Eliot of Harvard defined the problem of examination to be as follows: "To discriminate between pupils of different capacity, to select the competent for suitable instruction, and to advance each pupil with appropriate rapidity, will ultimately become, I believe, the most important function of the public school administration—those functions in which he or she will be most serviceable to families and the state."

Thirty years later the change in the situation was described as follows by the Associate Secretary of the College Board, Professor Carl C. Brigham: "An organization set up for the sole purpose of collecting tickets at the gate is now asked to show people to their seats. The notion of a general admissions ticket is yielding to the notion of a more exact description of the individual which will make possible his proper placement in definable universes of knowledge."

TEST RESULTS NOT USED ENOUGH

Twenty years have elapsed since Professor Brigham made that statement and, to judge from recent publications on this subject, the tickets taken at the gate are still used for general admissions and have hardly been used for purposes of suitable placement of each student admitted. The problem of articulation between school and college courses still demands attention.

While the absence of appropriate articulation between a student's record and his college course is only one of the causes of the large number of students who drop out of the college before completing the course, failure to use the instruments now available cannot be ignored. The high percentage of elimination of students from college is evidence not only of failure to use the available instruments for purposes of placement; it also points to the fact that they are not used as they should be for admissions purposes.

The development of new type examinations plus the knowledge accumulated about individual differences have focussed attention on the individual and have thrown new light on the meaning of equality of opportunity. The emphasis is shifting from the laudable desire to maintain standards of quality of achievement to an effort to discover how much a student has learned and whether he is capable of learning more. A further stage that needs to be developed is the discovery of a student's aptitudes so that he can be advised to set his sights in the direction most suited to his capacities. But in this process as in the process of education in general, the primary concern may be the individual, but ultimately the interest and welfare of society are involved in the production of citizens who are enlightened, who have a full sense of their responsibilities, and who can contribute best by engaging in occupations best suited to their abilities and aptitudes.

Equality of educational opportunity does not

New test equipment announced

The development of electronic test processing equipment capable of performing rapidly and simultaneously almost all clerical and statistical operations involved in large-scale testing operations was announced on October 31 by Professor E. F. Lindquist, director of Iowa testing programs at the State University of Iowa.

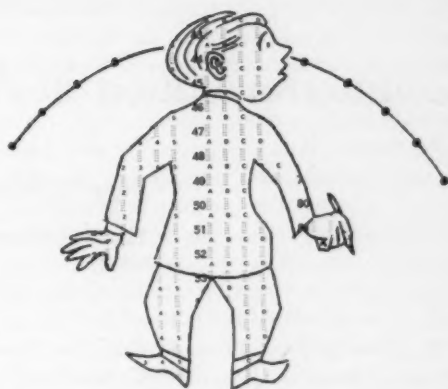
In describing the new and revolutionary equipment in an address to the Invitational Conference on Testing Problems, sponsored by Educational Testing Service, Professor Lindquist predicted almost incalculable advantages to be derived through its use in test administration and research. Copies of the address may be obtained by writing to the College Entrance Examination Board, 425 West 117 Street, New York 27, New York.

mean identity of opportunity nor the surrender of such instruments for discovering capacities that are available because they are not perfect. The French in their plans for increasing equality of educational opportunity prefer to use the term "social justice in education," which implies the discovery of the type of education best suited to the individual's discovered abilities and aptitudes. Instances could, of course, be cited both in this and in other countries where for political reasons pupils and students are given a chance to try themselves out (at public expense!) in forms of education for which they show neither aptitude nor ability. The high percentage of drop-outs in college is due to the popular notion that the student somehow profits from his exposure to the college atmosphere even though he derives no intellectual benefit from it.

BETTER INSTRUMENTS NEEDED

A genuinely democratic approach to the problem is contained in a definition of the function of educational administration by a distinguished English administrator. That function, he wrote, is "to enable the right pupils to receive the right education from the right teachers at a cost within the means of the State under conditions which will enable the pupils best to profit by their training." To this the development of new instruments for assessing the abilities and aptitudes have made an important contribution. More remains to be done and the history of examinations in the first half of this century has demonstrated that the final word has not and probably cannot be said. The investigations conducted independently in some of the countries that participated in the International Examinations Inquiry (1931-1937) showed conclusively that the traditional type of examinations was defective from the point of view of reliability of marking, which means in the long run social injustice and educational disfranchisement under conditions of organization in the countries concerned.

The threat and then the outbreak of World



New instruments made an important contribution

War II prevented the pursuit of the examinations problems to the conclusion to which the investigations pointed. The extensive use of new type tests for the allocation of personnel during the War has so far not exercised widespread influence abroad. The need of distributing education according to abilities and aptitudes is as great in times of peace as in those of war. Society demands more than ever before the development through education of common objects of social allegiance, but it also requires the best distribution of its human resources that is possible in order to meet the growing diversity of its occupational and professional needs. These ends have, I believe, been brought nearer to realization by the recent contributions to our understanding of the methods and content of examinations.

No one who is intelligent about these contributions would claim that no other sources of information to amplify the knowledge needed about an individual should be secured. The problem of examinations may directly and immediately be concerned with discovering more accurate scientific and technical methods of construction and scoring. Fundamentally, however, the problem strikes at the very roots of the whole meaning and significance of education for society.

Counterrevolution in American Education

New methods of teaching and testing are forecast by the departure from Dewey—by LEONARD CARMICHAEL

A recent and widely read book, *The Conservative Mind*, by Russell Kirk, contains the following statement: "The belligerent expansive and naturalistic tendencies of the era found their philosophical apologist in John Dewey. No philosopher's style is more turgid; but Dewey's postulates, for all that, are simple and quite comprehensible. He commenced with a thoroughgoing naturalism . . . denying the whole realm of spiritual values: nothing exists but physical sensation, and life has no aims but physical satisfaction. He proceeded to a utilitarianism which carried Benthamite ideas to their logical culmination, making material production the goal and standard of human endeavor; the past is trash, the future unknowable, and present gratification the only concern of the moralist. He propounded a theory of education derived from Rousseau, declaring that the child is born with "a *natural* desire to do, to give out, to serve," and should be encouraged to follow his own bent, teaching being simply the opening paths. He advocated a sentimental equalitarian collectivism with social dead-level its ideal. . . ."

These are strong words. A secret vote of educators as to whether or not they are essentially correct would surely divide us sharply. These sentences have been quoted not to imply that the writer agrees or disagrees with them, but to indicate that today an educational counterrevolution is in full sway. This revolution is already having its effects on the theory and practice of examinations.

For teachers, or for those who wear the robes

of fully accredited members of any profession such as law or medicine, to feel self-conscious about examinations is a relatively modern phenomenon. My own grandfather became a college professor just 90 years ago. I can remember that years later he spoke of not liking to read examination papers, but I doubt if any question concerning his ability as an examiner ever occurred to him or to many of his colleagues of the period.

THE LEVEL OF MASTERY

Only two short generations ago college professors and secondary school teachers, in general, were sure that they knew what students should study. They were certain also that they had the ability to find out in individual instances how successful education had been. The curriculum from college to college and school to school was relatively invariable and inflexible. The purpose of examinations was to find out how well individual students had learned or memorized definite units of this common subject matter. In the records of our older schools and colleges we find that students were rated each year in serial order in terms of academic performance from number one, the leading student, to the lowest man in the class. Students then knew where they stood. This rating was considered to be at once an objective indicator of the amount of knowledge possessed by each member of the class and also implicitly a measure of the student's mental capacity.

At that time, of course, each college con-

ducted its own examinations for admission. These were not thought of as aptitude tests, that is, as a measure of likely later success in diversified college work. They were considered to be devices to determine the level of mastery achieved in Latin or mathematics or some other field by the students being examined. This was natural and proper enough. At that time more than in ours college subjects were a continuation of secondary school subjects. The college professor added new well-identified bricks to the wall already laid by the schoolmaster. Even in those halcyon days, however, all was not perfect. Most of us have heard the story of the famous professor of Greek at Harvard who always passed every candidate for the freshman class. When queried by the president about the universal success of his candidates, the professor replied that since apparently none of the students really knew anything about the subject he did not feel that he should discriminate among them.

It is an artificial simplification to suggest, even for this early period of fixed studies and established standards in secondary and higher education in America, that subject-matter mastery was considered to be the only aim of education. Quite generally it was assumed that the individual who had mastered the prescribed course of study had also trained his mind. The individuals, therefore, who did well on examina-

tions were those most likely to do well in other activities of life. They had learned not only a definite subject matter but also how to use their minds. In short, they had become educated men and women. At that time one educated person could ordinarily recognize another in a few moments of conversation. The use of language was a secret sign of a class.

Of course, the materials then studied were highly conceptualized. Those who could not learn such subjects or who were not interested in abstract learning fell by the wayside. Thus, selection at all levels of the educational system guaranteed, indeed, that those who received bachelor's degrees had the kind of mental processes which might do well in many other aspects of life.

PROOF IN PRACTICE

The record of success in public life of those who received high scores at the time of taking final examinations for degrees in older universities of America and England demonstrated that this training and selection together did produce able graduates. Nor should we forget that the long-established tutorial and examination traditions of Oxford and Cambridge were possibly unequaled selection devices. The tests preliminary to the awarding of the doctor's degree at continental universities were also procedures well conceived as ways of evaluating individuals. The echoes of these two patterns were never wholly lost in American education at its best.

With the rise of modern experimental psychology the old theory that the mind was a mosaic of separate faculties each of which could be strengthened by exercise, as the muscles of the arm can be enlarged by lifting weights, was disproved. Some of the evidence used in the earliest of these psychological attacks on faculty psychology and formal discipline can today be seen to be somewhat beside the point. Nevertheless, the enthusiastic denial of the "transfer of training" by educational reformers was influential in bringing about an alteration in the



Students then knew where they stood

thoughts of many schoolmen concerning the ultimate aim of the educational process itself.

The view continued to be accepted that the effectiveness of school and college could be measured by examinations, but these were now thought to measure the specific changes produced in individuals as a result of hours spent in study. That such education nurtured the general temper of the mind or of separate compartments of the mind was challenged. The traditional view held that mastery of subject-matter content was a clue to the way "the mind" had matured or been "led out." The reformers contended that what was learned constituted so-called "specific connections" or units of content, almost like the "bits" of modern communication theory.

This then new and revolutionary concept suggested that if a boy or girl learned the dates and names of the battles of the Hundred Years War all that he acquired in the process was a mastery of the specific numbers representing years and patterns of letters representing cities or areas on maps. It was an easy step from this point of view to the notion that too much traditional education was dedicated to the teaching of what were derisively called "dead facts." Thus it came about that in place of this allegedly dull exercise schools were urged to prepare their students for what was called in countless articles "life as it is really lived" in continental America.

CHALLENGE OF PSYCHOLOGY

Much of this theorizing, its proponents thought, was built upon experimental psychological and educational study. Investigations of this sort at every step involved the testing and examining of students in school and college. The educational revolution that is now again being revolted against thus found its support in no small measure in the evaluation of the results of examinations. The use of control groups, tests of memory for content after the passage of different periods of time, and the evaluation of different ways of constructing and conducting



Much education was devoted to dead facts

examinations all began to be tried. Thus the growth of modern experimental psychology in Germany and America and the application of so-called scientific methods to education more and more challenged the older traditional view of the nature of the curriculum and the type of subject matter that should be presented in regular secondary schools and colleges. In this revolt examination findings and the results of tests played a large part.

It is not hard to think of large urban high schools which only one or two generations ago before the pedagogical revolution, as it were, gave their full emphasis to a curriculum consisting of hard, conceptualized and rigidly organized subjects such as Latin, Greek, and mathematics, with some minor bowing of the knee to history, English, science, and modern languages. Most such schools today are radically changed. Only a relatively small number of students in some of them are concerned at all with the classics or mathematics. Even the other subjects of the curriculum in which formal logical and abstract thinking is required are minimized. This so-called socialization or democratization of education has, of course, allowed a much larger percentage of each generation of children to continue in school for a longer period than would have been possible if the old insistence on examinations based on hard, concrete studies of languages or mathematics had been adhered to.

This change resulted also in part from a shift

in educational policy. Practical men noted that when industry trains new hands it begins with a job analysis. Then, based upon this analysis, a program of instruction is devised to train the novice in the required skills as rapidly as possible. Implicitly or explicitly this point of view influenced many of the advocates of mass education. Why should the dry bones of academic subjects be emphasized in schools "for all the people" it was asked? Rather should we not acclaim the persuasive phrase and "educate for living?" Thus the secondary school curriculum was "socialized," and many of our schools have been turned toward preparing students directly for vocation and for life. Not a few of the revolutionary reformers who brought about this change described the aim of the new educational process and indeed of human life as the adjustment of the individual to his environment. The terminology and patterns of thought of psychiatry, psychology, and mental hygiene were and are widely used in justifying this process.

Examinations were not wholly forgotten in this new school program, but their function was less clear. The old selectivity of the educational process came to be considered an evil and not a good. It was said sometimes that failing to promote all students in a class produced bad mental hygiene, and so mastery of academic content assumed less importance.



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human resources and as an important contributor to the literature of his profession. President of Tufts College until a year ago, Dr. Carmichael speaks in the above article from his present vantage as Secretary of the Smithsonian Institution.

Academic sheep were thus easily confused with academic goats. It was even sometimes suggested that examinations were not democratic. Some of the goats by the old standards were found to "adjust" better to society than did those strange boys and girls who now and then turned up in schools and who were in the slang of the schoolroom called "brains." Some of these students tended to forget about haircuts. They liked Latin and mathematics. Some of them even wrote sonnets. At times, of course, they seemed somewhat less well adjusted than their robust and socially minded teachers who combined coaching and the teaching of business arithmetic in their daily pedagogical fare. They also sometimes differed from such teachers in innate ability.

WHY EXAMINE AT ALL?

Under the old unreconstructed curriculum it had also been easier to devise good homemade examinations. Finding out about a student's mastery of Latin grammar is not too difficult, but it is not so easy to examine a preadolescent boy or girl on what I believe is called his or her "effectiveness in democratic participation in social living in the real school situation."

It is not surprising that at times, after this revolution, examinations were occasionally dispensed with altogether. After all, examinations are strange things. They violate the hedonistic calculus. Students and teachers both are bothered by them. Students do not like to take them. Teachers do not like to correct papers. Thus, the question may be asked: Are they socially desirable? The fact that the examination is basic in all selective education can thus be forgotten by those who have the will to be short-sighted.

At the same time that the study of the psychology of the individual was undermining the basis of the old doctrine of formal discipline great strides were being made in the amount of the exact content in the sciences and in all other academic fields. One hundred years ago one or two courses in chemistry would quite

effectively introduce an able student to the factual state of that science. Today, 50 courses cannot do this. The elective system was born as a result of the staggering increase in complexity of subject matter, abetted by a real and growing naturalistic knowledge of the nature of the mind.

TESTING FOR APTITUDE

When the elective system was adopted, in spite of what some of its present critics may say, it was a recognition of the new accumulations of knowledge and also of certain basic facts of human psychology. The growth in diversity of content could not then and cannot now be side-stepped. The modern knowledge of human mental processes must not be dismissed. That somehow these facts must be fitted into a program that is not subject to the abuses of a raw elective system has occupied educational statesmen for years and will continue to interest them. The great truth of human individual differences in academic capacity also makes any complete retreat from an elective system or at least from a series of optional educational programs seem unlikely. Teachers always have recognized that every student is not equally able in schoolwork. It is said, amusingly enough, that this is not believed to be true in Russia today. But in that through-the-looking-glass society even chromosomes do not act as they do in the real scientific laboratories of the rest of the world.

No generally accepted way of determining which individuals had superior intellectual endowment so far as school work is concerned was available when McKinley was in the White House, although from the seventies of the last century on, psychologists had been endeavoring to deal with the problem. This was a period in which the analysis of mental processes was a principal aim of psychology. Naturally, therefore, those who attempted to determine a difference between mental capacities of individuals who were good or poor in school work experimented with series of analytical tests. These

tests of sensory acuity, reaction time, specific memory for nonsense syllables, and so forth were tried on groups of school and college students.

Such efforts, although revealing interesting facts about the range of human capacities, did not assist greatly in the task of finding out which students were likely to succeed in school. The development in France of the Binet-Simon tests in 1905 changed all this. These tests, which used real tasks and problems, proved to be surprisingly useful. By the time of the first World War the point of view was well established that by asking a child of unknown capacity to do a series of standard problems useful knowledge



Subject matter ascent was basic

could be gained about his intellectual ability. The testing of recruits for our armies in the first World War showed that these older individual tests could be modified to make useful group tests. It was at this time that psychologists began experimenting with group tests to determine educational aptitude.

Notable among such psychologists was Professor Carl C. Brigham of Princeton. Dr. Brig-

ham and his co-workers at the College Entrance Examination Board set the pattern for the scholastic aptitude tests which all of us now know so well. The usefulness of these tests set off the chain reaction of another polite, quiet, and bloodless revolution. The old college admissions theory, as we have seen, had been based on an effort to find out the level of ascent of each student on very specific sets of subject-matter ladders. The new aptitude tests measured in a surprisingly accurate way the differences in ability of students to do later college work. They predicted senior standing as well as freshman marks. In their extreme form the old examiners thought that with their tests they were measuring previous environmental education. The new testers, to some degree at any rate, considered that they were scaling inborn capacity or even, be it whispered, "innate intelligence."

DEVELOPMENT OF MEASURES

The use of statistics in biometric and psychological research and in improving examination forms of all kinds began to be given new attention at this time. Such men as Sir Francis Galton, Karl Pearson, C. E. Spearman, E. L. Thorndike, Sir Godfrey Thomson, and L. L. Thurstone, among many others, also developed new and surprisingly exact tools for those who were interested in measuring human capacity and achievement.

It would require a good deal of study to determine the exact part that the new forms of aptitude tests have played in the modification of the curriculum in American secondary schools and colleges. Some of the changes in school programs that many teachers like or dislike have almost certainly not been caused by tests but by shifts in social philosophy. The new forms of examinations, nevertheless, have played an important part in the educational development of recent years. Aptitude tests and scientifically constructed subject-matter tests have made it possible to evaluate the effectiveness of teaching in given classes as never before.

This simple fact has had and will continue to have far-reaching effects on the motivation of teachers and on general educational policy.

Now, once again, as was suggested at the beginning of these remarks, we are in the midst of a new revolution or, better, a counterrevolution in education. If the present tendency is correctly interpreted, however, it must not be thought of as a mere effort to return to the old fixed ways of Victorian education. Rather the new reformers are challenging all of us to deal in an effective way with a good synthesis of new human knowledge and with our present-day understanding of the make-up of the mind. If students now are to be helped more than in the past to develop valid ethical and esthetic value systems and gain genuine social wisdom in our schools, we must be ready to change many of our methods of instruction and also our methods of examination. The writings and addresses of such men as Bernard Iddings Bell, Gordon Chalmers, Robert M. Hutchins and Nathan M. Pusey, and the new emphasis in the courses of study at Chicago, Harvard, Princeton, Yale, Minnesota, and many other institutions, are presenting in different ways this vigorous challenge.

Some of these novel programs, like that at



A counterrevolution is in motion

Chicago, are directly based upon the development of new examining techniques. Others, it may be, because of the temperament of the individuals who have been concerned in their development, have seemed to turn away from what is sometimes considered to be the excessive mechanization of modern examination theory and practice. These new trends in higher education and especially the new return to the best in humanistic studies are bound to have a marked effect on secondary school educational programs. The effect of this change may be most marked and is probably most needed in the programs offered to superior students in the large public secondary schools and the great publicly supported colleges of America.

Today we are fortunate in having an established body of statistical and other techniques to assist experts in the proper construction and evaluation of examinations. Any worthy type of education can in some degree be measured. Furthermore, it is almost always true that measurement of this sort can best be done when it is approached with double knowledge. Both examination techniques and a true knowledge of all the intellectual and even spiritual objectives of the education being measured are necessary if modern tests are to be fully adequate.

THE NEW OBJECTIVES

Thus a new sophistication seems to be entering American thought about what is desirable in teaching and in examining. This suggests that those who are concerned with the statistical theory and development of examinations must not today rest on their laurels, or, in a more appropriate figure, on their sheaves of multiple coefficients of correlation. They must concern themselves with adapting old and well-established techniques to new ends. Novel measuring instruments will be required if the new and subtler aims of education of today are to be adequately served. Test technicians who are wise in the ways of examination construction should not view with doubting eyes present-day *avant garde* movements in education. Old radi-

cals beside their calculating machines must be wary of becoming conservative now that the results of their own old revolution are being challenged. The liberal arts are certainly about to receive more attention than they have in the recent past in education. It is a truism that the results of a valid humanistic education are very real but not easily measured.

These new educational objectives place a clear emphasis upon the synthetic capacities and evaluating abilities of the individuals being tested. If we are to know better how to encourage school and college boys to deal in creative and constructive ways with fresh problems on the basis of the wisdom of the past, we must also develop techniques of examination that can assess such sensitive processes. Quantitative scaling in the esthetic, moral, and spiritual spheres is not so easily done as is the measurement of success in school algebra. Techniques like those long used at the higher levels in European universities, which have involved prolonged individual oral examinations, may have to be reconsidered. The measurement of the products resulting from actual sample days of scholarly work may also have to be tried out. Other new devices will surely be invented. All of this testing, however, must be done in such a way that our present knowledge of the reliability and validity of measuring devices is not lost.

Real progress in these years is perhaps being made in new plans to produce cultivated, civilized, socially effective, and spiritually sensitive human beings out of the little apes of our human family. If this great objective is to be more nearly approached in the future than in the past it will certainly be in part because new and valid examination procedures are devised and wisely used by those who have skill in the specialized science and art of test construction. There is indeed a close relationship between examinations and social and educational policy. In this relationship examination theory and examination practices have played and will continue to play a vital role.

Aims and Arms of British Testing

An appraisal of the philosophy of education and instruments of selection in the Commonwealth — by F. CYRIL JAMES

In order to appreciate accurately the relationship of examinations to social and educational policy in England, it is necessary for us to look backward very briefly to the thirteenth century. By that time, as Sir Maurice Powicke has pointed out, the pattern of university examinations was already well established at Oxford and Cambridge. It involved a series of written papers and before the student could become a master he was not only required to write a dissertation but to defend it in oral argument before the examiners.

This was an examination for clerks, and we must, I think, admit that it was splendidly designed for the purpose of appraising the qualifications of those who were candidates for promotion in church and state. It tested the essential ability to read and write. It gave the candidate an opportunity to demonstrate his ability to reason clearly, and it enabled the examiner to find out whether the candidate was familiar with that body of law and doctrine which would be a shared experience among all of those with whom, as churchman or officer of state, he would be in contact.

What we often forget is that these clerky examinations were applied to only a small group of those who were seeking promotion and preferment. They were, in fact, applied only to clerks. As Dr. C. Delisle Burns has pointed out in his contribution to that delightful book of *Essays on Examinations*, the young man who wished to become a knight, and to distinguish himself in military affairs, was examined in a completely



different fashion. Normally, he would be expected to come from a knightly family, and I might add in passing that one of the things which modern examination techniques ignore is the subject of genetics which might indeed be quite as important as the science of psychology. Having normally come from the right family, the lad would then be subjected to years of training in courtesy, in horsemanship, in the use of arms and in the code of chivalry. At each stage in his career he would be examined by those under whom he was studying, and the accolade that admitted him to knighthood came only after he had passed a series of rigorous and very practical aptitude tests.

Somewhat similarly, in a completely different field, the lad who wished to become a goldsmith

would normally come from the family of a goldsmith, and would be subjected to ten years of apprenticeship, during which he would learn all of the techniques of production and marketing. Only when this apprenticeship was completed and he had demonstrated his skill as a journeyman was he eligible to present the masterpiece which constituted the final examination before his admission to the guild. Once again, rigorous practical training and a series of aptitude tests of the most appropriate kind were used, an examination contrasting sharply with the clerkly examinations at Oxford and Cambridge.

This sharp contrast of training practices and examination techniques has persisted in England much more than is usually recognized in discussions of examination procedure. At the present time, something like 4,000 engineers qualify annually in Great Britain as a result of apprenticeship programs and non-university examinations. Even if, as is sometimes alleged, the written papers which confront such men at each stage of their careers are somewhat too academic, there can be no question that the practical training on board ship or in a machine shop ashore constitutes precisely the kind of preparation for a career which constituted the training of a goldsmith in the thirteenth century. Nor are engineers the only professional men who qualify outside the normal office of a university. Accountants, solicitors and barristers can, and frequently do, qualify by avenues of training outside the university, and until the Goodenough Report of 1944 there were in England many hospital schools of medicine entirely outside university control.

EASY COME, EASY GO TO COLLEGE

If this pattern of professional qualification *outside* the universities is clearly borne in mind, the system of university education at Oxford and Cambridge during the early years of the nineteenth century is not as anachronistic as is sometimes suggested. These universities were still to a very large extent engaged in training clerks, individuals who looked forward to ca-



Knights passed a series of aptitude tests

reers in the church, in the civil service, or as gentlemen administering their own estates. In each of these careers personal character was important, literacy and ability to reason were highly desirable, and an accepted body of knowledge that each man shared with his peers was a *sine qua non*.

The pattern of easy admission to university for boys from the right families and the right schools, together with easy pass degrees, was not unreasonable in terms of this objective of a university education. The tutoring system was as good an apprenticeship as man has yet invented, and the rigorous examinations for honors degrees, together with the competitive examinations of the civil service, weeded out from among the students those whose outstanding ability marked them out for academic careers or brilliant contributions to church or state.

All of this English pattern contrasts rather sharply with the situation in the United States during the second half of the nineteenth century. America was expanding rapidly. Steadily increasing numbers of geologists were needed to explore its resources; engineers were needed to build its railways and factories; numbers of lawyers were called for to draw business contracts and handle the affairs of governments; and the steadily growing population called for increasing numbers of physicians, surgeons, dentists, nurses and many other groups.

As another contrast with Great Britain there was not after the Civil War much of a professional career for clerks in the sense in which I have used that word to describe the pattern of English society. The concept of a professional civil service recruited from the universities by examination scarcely existed, and the work of government was largely carried on by men who had been recruited from political or business life to undertake specific tasks in a particular administration, most of them looking forward to a return to private life when the next presidential election had brought a new candidate to the White House. Indeed, in a wider sense, the enthusiasm of universities and of their students for a "clerkly" career diminished quite steadily from the American Civil War to World War II, as is apparent from the many writings and speeches on the subject of the declining interest in the humanities.

NEW TECHNICAL TASKS

In a single sentence, the American universities were called upon to undertake tasks which Oxford and Cambridge had not attempted during the first half of the nineteenth century: they were called upon to train technicians and scientists. Towards the end of the century they were even asked to train accountants and business executives, but few people regarded them as institutions chiefly for the training of clerks. Quite clearly, the older pattern of clerkly examinations was not appropriate to test the quality of candidates for the diverse careers now open to the graduate of an American university, and there was, quite rightly, the steadily growing demand for aptitude tests and vocational tests which would more accurately determine the potentiality of a man in the field of medicine, engineering or law.

This contrast between the patterns of examination and professional training in England and the United States has, quite deliberately, been emphasized in the preceding paragraphs because I should like to suggest that at the present time, in mid-twentieth century, the British and

American patterns may be tending to a closer approximation than ever before. This results in part from the counterrevolution in the United States described by Dr. Carmichael with its greater emphasis on general education and the importance of the humanities. It may well be that the older type of "clerkly" examination is still the best method of testing a man's quality in this field of knowledge. On the British side, compulsory general education for all boys and girls, with general examinations at set stages in the process for the purpose of determining the subsequent career of each individual, has raised serious questions regarding the older English type of academic examinations and increased the demands for modern psychological tests that more accurately determine vocational aptitude.

So far as Great Britain is concerned, the trend which has produced the present concern about examination techniques may be said to have begun with the creation of the University of London in 1836. This was a university from its very beginnings completely different from the older patterns of Oxford and Cambridge. The University of London was intended to provide opportunities for higher education to young men and women who had come up through the new County Council Schools, not only in London but in all parts of England. Because of financial reasons, many of these potential students could not afford to come to London and reside in col-



Like the other contributors to this issue, F. Cyril James has a record of accomplishments which suggests that today's eminent educator must be a teacher, plus and administrator—plus. The extra plus in Dr. James' case is fulfilled by his standing as an economist and member of many civic and educational committees in the United States and Canada. These accompany a record of high distinction in the

academic world in professorial posts at the University of Pennsylvania and McGill University. Since 1940 Dr. James has been Principal and Vice Chancellor of McGill, the first and only Canadian university to be admitted to the Board.

lege, so that from the middle of the nineteenth century extra-mural students were allowed to sit examinations side by side with intra-mural students.

The lad who had attended college for three years and listened to the lectures of the professor might be sitting beside the boy whose days had been spent working in a coal mine at Newcastle and whose studies had been his evening avocation for five, six or seven years. To these differences should be added the fact that school backgrounds were highly diverse because of the inequality of teaching skill and physical facilities from one part of England to another.

If the University of London was going to hold the scales impartially in its judgment of the thousands of students who presented themselves for degrees the examination had to be rigorous and objective. External examiners, not associated with any of the teaching colleges of the university, were appointed to set papers and supervise their marking, while elaborate techniques were developed to insure that from the viewpoint of the examiner marking a paper at a given moment there should be no evidence that would reveal the name or personality of the candidate whose paper he was reading.

At a very early stage in its history the University of London, like the universities of the United States, was called upon to widen its facilities and its curricula to permit the higher education of individuals destined for scientific, engineering and medical careers. But the pattern of examination persisted. Indeed, it spread very rapidly from London to most of the new "red brick" universities that came into existence during the latter half of the nineteenth century. England has been slower to charter new universities than North America. Most of these institutions came into existence as "university colleges" undertaking the responsibility of teaching students who in due course would sit the examinations of the University of London. Only after such a university college had served a long and satisfactory apprenticeship could it apply for charter as an independent university. The Uni-

versity of Southampton, for example, did not receive such a charter until last year, while Hull and Exeter are still university colleges under the mantle of the University of London.

On an even wider canvas, the pattern of the University of London extended to the whole of what used to be called the British Empire. When the Union of South Africa came into the British Empire at the beginning of the twentieth century, the South Africa Act provided that university education was a function of the federal government and set up a single university, the University of South Africa, modeled on the pattern of the University of London. It was to do no direct teaching but to set the examinations for all students coming from the university colleges scattered throughout the country and not until 1918 was the first of these university colleges to receive a charter as an independent university.

Still more recently, at the close of World War II, the British Government set up university colleges in the West Indies, at Khartoum and at Makerere, while it expanded the activities of the older institutions at Hong Kong and Singapore. The legislation provided that each of these institutions should be under the tutelage of the University of London and that the students from these distant parts of the world should at the end of their academic careers sit for the standard examinations of the University of London.

A NATIONAL SYSTEM

It is clear, therefore, that the examination patterns first associated with the University of London during the early stages of its career have gradually come to permeate the whole British educational system. This process has been aided by the fact that the national government is today responsible for providing money for the operation of universities of Great Britain while, on the other hand, the majority of the students who attend those universities receive some sort of assistance from the national government, county councils, or the municipalities. As Dr.



Test security is emphasized in India

Eric Ashby of the Queen's University in Belfast pointed out a little while ago, the financial barriers to the education of an able boy or girl in Great Britain have now been completely removed but, as the obverse of that medal, rigorous competitive examinations are obviously necessary to determine which among many applicants shall receive the scholarships available.

Along another line of trend, many of the professional bodies, such as accountants, solicitors, and land surveyors, which conduct their own programs of apprenticeship and professional training have come to rely on the matriculation or school leaving examinations as the criteria on the basis of which they determine the admissibility to training of a candidate. The requirements of each of these bodies may differ from that of the others in regard to the number of papers that a candidate must write and the minimum mark on which he may be admitted to training, but in spite of these divergences the trend parallels that of university scholarships in emphasizing the importance of the standard examinations usually set at the time of leaving school or entering university.

Under the Education Act of 1944 these examinations have been standardized throughout

England under the general jurisdiction of the Ministry of Education and similar standardization in Scotland has occurred under the Scottish Education Department. All of those leaving grammar schools and other types of high school sit for the General Certificate of Education at the age of 16 or 17, but, more significantly, all pupils in England are subjected at the age of 11 or 12 to an examination that fairly precisely determines their subsequent careers. If at that stage of their education they are admitted to grammar school, it is possible for them ultimately to proceed to university education, but if at age 11, they fail to win admission to grammar school and are placed either in technical or commercial schools, the chance of a subsequent university career is remote. It is not therefore unnatural that large numbers of parents should be asking whether the type of examination that is now set to children of 11 or 12 is that most likely to measure their aptitude and vocation.

It is not possible for me here to discuss the examination pattern in other parts of the British Commonwealth. Dr. Conant in his recent lectures at Baltimore has described adequately the Australian pattern and emphasized the fact that it is very similar to that which existed in England a generation ago. Democratic New Zealand has guaranteed to every boy and girl who passes the matriculation examination the right to proceed to university and to receive a state scholarship, but each stage in the university career is sharply marked by an examination of the older academic pattern which must be passed. The only consideration for the weaklings is to be found in the fact that a student who fails may attempt the examination as often as his courage and pertinacity prompt him to.

Dr. Kandel has already emphasized the importance of examinations in India, where I think that they play a more important part in university organization than any other country with which I am familiar, to the extent that elaborate precautions are taken to protect the examination papers from theft as well as to insure rigorous objectivity in marking. India also seems to

have followed the older English pattern of comparatively easy pass degrees but very high standards for honors degrees.

As to Canada, our pattern, as in so many other things, is about halfway between American and British practice. The educational authorities in each of the 10 provinces set a standard high school leaving examination and in many of these cases the authorities appoint external examiners from the staff of one or other of the universities. Any boy or girl who satisfactorily passes these examinations in the subjects prescribed by the university is automatically admitted to higher education on making application but in very many cases the examination marks are supplemented by a study of earlier school records, letters of recommendation from teachers and headmasters, together with personal interviews. The examination is therefore not as rigid a criterion as would be the case in Great Britain. I might also mention that such professional faculties as law and medicine are making increasing use of aptitude tests and vocational tests, most of which we have borrowed from the United States. In a few cases, moreover, such as accountancy and within certain limits, engineering, it is still possible for an individual to obtain professional qualifications without at any stage in his career having studied in a university.

Such, in broad brush strokes, is the development of British philosophy in regard to examinations, and I hope that I have made clear in the

process of the discussion the extent to which the march of events has led people in Great Britain and the Commonwealth to ask questions about examinations very similar to those which are now being asked in the United States. I do not pretend to be able to answer all of those questions, but I should like to state four of them which in my judgment deserve more careful consideration than they have yet received.

QUESTIONS OF POLICY

In the first place, at what age should we set the examinations that will determine the future career of the child? In the case of Great Britain there has always been a tendency to set these examinations much earlier than in the United States, and as I have already pointed out, the critical age is now 11 or 12. That contrasts sharply with American practice, which tries to postpone until the age of 17 or 18 any specialization which would seriously handicap the individual in his choice of a subsequent career. Dr. R. C. Wallace of Queen's University has suggested in recent addresses that universities should prescribe no requirements for admission but take all students and, if necessary, teach them the subjects that they lack. There are advantages on both sides. The English pattern means a very much more comprehensive education, completed at an earlier age. The American pattern is slower and may be said to waste time, but there is less opportunity for the boy or girl to make an early mistake by failure in an examination that will decisively influence the whole subsequent career.

As a second question, how are we going to get away from the fact that rigorous competitive examinations tend to replace the examinee's desire to learn by a desire to get very good marks? The two aims are not identical; the results are very different. But there is widespread concern in Great Britain and in Canada that the desire for high marks becomes the dominant factor in the minds of the students. Only a few days ago I ran across an instance of a school, the pupils from which usually do exceedingly well in the

.50 and below

An article in the *Test Service Bulletin*, No. 5, describes the use of tests with a coefficient of validity of less than .50 to predict both academic and business career performance. The article may be obtained by addressing the publisher of the *Bulletin*, The Psychological Corporation, 522 Fifth Avenue, New York 36, New York.

matriculation examinations, that had carried the process to what in my mind is a *reductio ad absurdum*. A textbook of modern history, which is itself very largely predigested pabulum, had been still further digested by the history teacher into a 20-page mimeographed outline which the students learned by heart. Even within this outline, emphasis was placed on certain sections which were thought likely to appear in examination questions. That is certainly not the effective studying of history and there can be no question that the examination system is to some extent, at least, responsible for this development.

A third question which deserves careful consideration is the extent to which our present knowledge of examination techniques enables us to devise more satisfactory methods of testing the capacity of individuals, particularly at an early age. The question is obviously related to that which I raised a few moments ago, since the efficiency of examination techniques must obviously govern the choice as to the age at which conclusive decisions are made regarding a child's career.

Finally, I sometimes wonder how far the rigid requirements for entrance to university are due to academic considerations and how far they are due to financial considerations inherent in the fact that the average student pays much less than the cost of his university education, while many scholarship students pay nothing at all. Each one of us in the course of his career has been conscious of the fact that some men and women mature very late and that in many cases the demonstration of intellectual ability does not come until the individual confronts a problem of considerable interest to him.

VVVVV

One needs only to think of the dramatic example of the Right Honourable Winston Churchill, now Sir Winston Churchill, who, so far as I have read his biography, was a completely unsatisfactory pupil at Harrow and failed almost every examination. During his

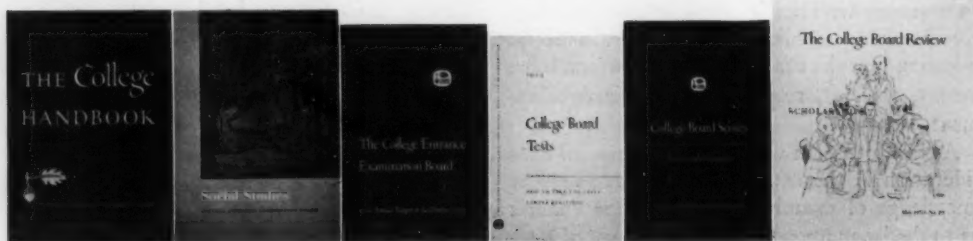


A completely unsatisfactory pupil

school career he never came within measurable distance of qualifying for admission to university even under the lenient pattern that then existed at Oxford and Cambridge, and I suspect that he would not even have survived at Harrow if the headmaster had not realized that he came from a distinguished family, emphasizing genetics rather than aptitude tests. Even at Sandhurst, Mr. Churchill's career was far from brilliant, and I feel reasonably certain that even if, prior to the age of 25, he had been subjected to any of the tests by which we customarily determine whether the student is to be admitted to a university career, Mr. Churchill would have failed miserably. The greatness of Mr. Churchill's career during the past half century stands in sharp contrast to that academic record, and I should like to suggest that every examiner ought to have hanging in his room a portrait of Mr. Churchill as a reminder of the fact that no one of us has yet developed an infallible test that will enable us to recognize genius in the case of the young man who has not yet been confronted by a challenge great enough to cause him to put forth all his energy and ability.

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